Amendments to the Claims:

Please withdraw claims 9-31 without prejudice and add claims 35-45 as follows.

1. (original): A method for modulating a polarization-multiplexed optical clock signal for an optical communication system, the method comprising:

a) splitting a linearly polarized input optical clock signal having a clock rate into a first and a second linearly polarized optical signal, wherein the first linearly polarized optical signal comprises a first polarization state and the second linearly polarized optical signal comprises a second polarization state;

b) delaying the first linearly polarized optical signal relative to the second linearly polarized optical signal;

c) combining the first and the second linearly polarized optical signals to generate the polarization-multiplexed optical clock signal for the optical communication system; and

d) modulating the polarization-multiplexed optical clock signal with a polarization-insensitive optical modulator to encode data on the polarization-multiplexed optical clock signal.

2. (original): The method of claim 1 wherein the first polarization state is orthogonal to the second polarization state.

3. (original): The method of claim 1 wherein at least one of the first and the second linearly polarized optical signals is controllably attenuated.

4. (original): The method of claim 1 wherein the delaying of the first linearly polarized optical signal relative to the second linearly polarized optical signal comprises propagating the first and the second linearly polarized optical signals along a first and a second optical path, respectively, wherein an optical path length of the first optical path is not equal to an optical path length of the second optical path.

5. (original): The method of claim 1 wherein the delaying of the first linearly polarized optical signal relative to the second linearly polarized optical signal comprises propagating the first and the second linearly polarized optical signals through a first and a second polarization plane, respectively, of a birefringent medium, the first and the second polarization planes being characterized by a first and a second propagation velocity of light, respectively.

6. (original): The method of claim 1 wherein the combining of the first and the second linearly polarized optical signal to generate the polarization multiplexed optical clock signal comprises rotating at least one of the first and the second polarization states.

7. (original): The method of claim 1 wherein the polarization-multiplexed optical clock signal has a clock rate that is substantially twice the clock rate of the input optical clock signal.

8. (original): The method of claim 1 wherein the polarization-multiplexed optical clock signal has a clock rate that is more than twice the clock rate of the input optical clock signal.

9. (previously withdrawn).

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28. (previously withdrawn).

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30. (previously withdrawn).

31. (previously withdrawn).

32. (original): A polarization-multiplexed optical data modulator comprising:

a) a means for generating an optical clock signal comprising a train of optical pulses having a polarization state;

b) a means for optically splitting the optical clock signal into a first optical signal and a second optical signal, each of the first and the second optical signals having

a first and a second polarization state, respectively;

c) a means for delaying the first optical signal relative to the second optical signal;

d) a means for rotating the first polarization state of the first optical signal relative to the second polarization state of the second optical signal, wherein the rotating of the first polarization state relative to the second polarization state orients the first polarization state substantially orthogonal to the second polarization state;

e) a means for optically combining the first optical signal and the second optical signal to generate the polarization-multiplexed optical clock signal; and

f) a means for modulating the polarization-multiplexed optical clock signal with a data signal.

33. (original): The polarization-multiplexed optical data modulator of claim 32 wherein the means for modulating the polarization-multiplexed optical clock signal with a data signal is insensitive to the polarization state of the polarization-multiplexed optical clock signal.

34. (original): The polarization-multiplexed optical data modulator of claim 32 further comprising a means for attenuating at least one of the first and the second optical signals.

35. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the polarization-multiplexed optical clock signal has a clock rate that is substantially twice the clock rate of the optical clock signal.

36. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the polarization-multiplexed optical clock signal has a clock rate that is more than twice the clock rate of the optical clock signal.

37. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the means for generating the optical clock signal comprises an optical clock that generates the optical clock signal having a clock rate.

38. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the means for optically splitting the optical clock signal into the first optical signal and the second optical signal comprises an optical beamsplitter that splits the optical clock signal into the first optical signal and the second optical signal.

39. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the means for delaying the first optical signal relative to the second optical signal comprises a birefringent medium having a first and a second polarization plane characterized by a first and a second propagation velocity of light, respectively.

40. (new): The polarization-multiplexed optical data modulator of claim 39 wherein a polarization angle of the optical clock signal is substantially forty-five degrees relative to the first and the second polarization planes of the birefringent medium.

41. (new): The polarization-multiplexed optical data modulator of claim 39 wherein the first polarization plane of the birefringent medium is substantially orthogonal to the second polarization plane.

42. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the means for delaying the first optical signal relative to the second optical signal comprises a first and a second polarization-maintaining optical fiber that receive the first and the second optical signals, respectively, an optical path length of the first polarization-maintaining optical fiber being different from an optical path length of the second polarization-maintaining optical fiber by an optical path difference, wherein the first optical signal is delayed relative to the second optical signal by a time that is proportional to the optical path difference.

43. (new): The polarization-multiplexed optical data modulator of claim 42 wherein a first and a second polarization plane of each of the first and the second polarization-maintaining optical fibers are oriented at substantially forty-five degrees relative to a plane of polarization of the optical clock signal.

44. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the

means for optically combining the first optical signal and the second optical signal comprises an optical combiner that combines the first and the second optical signals.

45. (new): The polarization-multiplexed optical data modulator of claim 32 wherein the means for modulating the polarization-multiplexed optical clock signal with the data signal comprises a polarization-insensitive optical data modulator that modulates the polarization-multiplexed optical clock signal with the data signal.